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AP-1771

Docket No.: KCC-15,750



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Michael John NIEMEYER, et al.

Serial No.: 10/025,214

Group No.: 1771

Filing Date: 18 December 2001

Examiner: E. Cole

Title: WRAPPED ABSORBENT STRUCTURE

Confirmation No. 4970

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**APPELLANTS' REPLY BRIEF UNDER 37 CFR 41.41**

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Dear Sir:

Appellants herewith file their Reply Brief in the above-identified case, in response to the Examiner's Answer mailed 18 August 2005. Appellants respectfully submit that the Examiner's assertions are incorrect as a matter of law and fact. Thus, for the reasons set forth below, Appellants respectfully request that this Board reverse the rejections of Claims 1-6, 8-25, 27-40, and 42-48 under 35 U.S.C. §103(a).

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In the Examiner's Answer, the Examiner presents a response to Appellants' Brief. Appellants reply to the Examiner's response as follows:

**I. Claims 1, 3-6, 8, 10-11, 16, 19-21, 23, 24-25, 27, 29, and 30 are non-obvious under 35 U.S.C. 103(a) based on the teachings of Putzier in view of GB '648.**

**A. The wrapper material in Putzier does not possess significant absorbent properties.**

As pointed out by the Examiner, Putzier does not disclose the amount of absorbency that is contributed to the absorbent material by the wrapper. However, contrary to the Examiner's assertion, it is *not* reasonable to *presume* that the Putzier material would meet the limitations of Appellants' claims with respect to the amount of absorbency attributable to the wrapper.

Appellants' independent claims require the absorbent wrap to provide at least 20% of a total absorbent capacity of the absorbent structure (Claim 1) or an absorbent wrap to inner core absorbency ratio of at least 0.2 (Claim 16). In other words, the absorbent wrap must possess functional absorbent properties, and must significantly contribute to the overall absorbency of the absorbent structure.

Putzier discloses that the wrapper (made of cotton or rayon) is *not* made of the same material as the intermediate layer (made of cellulose fluff), or the absorbent core (made of a mixture of cellulose fluff and a more absorbent material). The absorbent core layer, which constitutes 80-90% by weight of the structure, is made of the highest absorbing material combination. The intermediate layer, which constitutes 3-6% by weight of the structure, is made of the second highest absorbing material. The wrapper, which constitutes 5-8% by weight of the structure, is made of the least absorbing material. As noted at Col. 5, lines 11-13, the wrapper is intended to be "arranged in such a way that *the absorbent material is completely enclosed*" (emphasis added).

In any case, the wrapper disclosed in Putzier constitutes, *at most*, 8% by weight of the absorbent structure. Thus, the disclosed wrapper would account for substantially less than 8% of the absorbency of the entire structure, or substantially less than half of the minimum required by Claims 1 and 16. Even if the wrapper were formed of the same material as the intermediate layer and the absorbent core, *the wrapper would account for not more than 8% of the absorbency of the entire structure.*

Since Putzier discloses the wrapper constituting so little of the absorbent structure, there is no suggestion or motivation in Putzier to adjust the thicknesses and relative proportions of the components to arrive at a material having the wrapper absorbency claimed by Appellants. The single-layer absorbent material in GB '648 also fails to provide any motivation to adjust the thicknesses and relative proportions of the components in the Putzier material to arrive at a material having the wrapper absorbency claimed by Appellants.

**B. The wrapper material in Putzier does not include a binder material “mixed throughout” a fibrous absorbent material.**

The Examiner suggests that because the wrapper in Putzier comprises both absorbent material and a binder material, the wrapper therefore inherently comprises a mixture of the two. More particularly, Putzier claims “a binder stabilizing the wrapper (1).” However, there is no suggestion or motivation in Putzier to *mix* the binder material throughout the entire wrapper because the sole purpose of the binder material in Putzier is to secure the wrapper around the absorbing body (3). A binder that is only applied at the seam would certainly stabilize the wrapper around the absorbing body.

The Examiner cites Col. 5, lines 11-23, suggesting that this section teaches stabilizing the wrapper with a binder through a mixture of the binder and fibrous material. However, Putzier states at Col. 5, lines 13-17:

By means of a suitable binder this *structure* is stabilised in such a way that the material of the absorbing body, i.e., the “fluff” (cellulose) and/or the absorbent for aqueous liquids, cannot escape. (emphasis added)

Thus, Putzier refers to stabilizing the *entire absorbent structure* by using a binder to secure the wrapper around the absorbing body. There is no suggestion in this passage or elsewhere within Putzier that the binder should be mixed with fibers. Instead, the binder is used to tack the wrapper in place, thereby stabilizing the wrapper around the absorbing body.

Consequently, Putzier requires a very minor amount of binder material. Also, there is a separate tissue layer (2) within the absorbent material that serves the purpose of maintaining the absorbing body in place and distributing the liquid to be absorbed. Absent impermissible hindsight, it is unlikely that a person skilled in the art would consider mixing binder material throughout a fibrous absorbent material to form a wrapper, based upon the

teachings of Putzier, in lieu of the combination of the wrapper, the tissue layer, and the binder material applied along a seam of the wrapper.

GB '648 discloses a single-layer absorbent core material comprising a mixture of fibers and stabilizing binders. Thus, the stabilizing binders in GB '648 are not used in the same manner as in Putzier, namely mixed with fibers to hold the fibers together (as in GB '648) versus securing a wrapper in place around an absorbing body (as in Putzier).

The reason that the absorbent material in GB '648 requires strengthening is that the absorbent material is primarily composed of biodegradable fibers that lack the strength of conventional fibers under wet conditions. Since GB '648 fails to disclose or suggest a wrap material, GB '648 also fails to disclose or suggest *strengthening* a wrapper-type component. Consequently, there is no suggestion or motivation to combine the teachings of Putzier and GB '648 and, thus, no suggestion or motivation to strengthen the wrapper material of Putzier.

Even if these references were combined, there is no reason that a person skilled in the art would consider using a binder material to reinforce the wrapper material of Putzier by mixing the binder material throughout a fibrous material based on the teachings of GB '648. Instead, the logical combination of the teachings of these references would result in mixing a binder with the fibers of the absorbent core in Putzier and *eliminating* the wrapper entirely, since the binder in GB '648 obviates the need for a wrapper.

**C. Neither Putzier nor GB '648 provide any suggestion or motivation to use Appellants' claimed amount of binder in a wrapper.**

As pointed out by the Examiner, Putzier does not teach the particular amount of binder recited by Appellants. Contrary to the Examiner's assertion, it would *not* have been obvious to select the particular amounts of binder through the process of routine experimentation in order to arrive at an amount of binder that provides sufficient strength and stability to the wrapper material without using excess binder which would be expensive, wasteful and could potentially have a negative effect on the hand, absorbency, etc. of the wrapper material.

As explained above, Putzier does not disclose or suggest mixing the binder material with fibrous material, but instead suggests using the binder material to hold the wrapper in place around the absorbing body. Consequently, Putzier requires a very minor amount of binder material.

GB '648, cited for the use of a binder, does not overcome the deficiencies in the Putzier disclosure. As explained above, GB '648 discloses a single-layer absorbent material and fails to disclose or suggest any sort of wrap material. Instead, GB '648 discloses that non-irritating binders may be applied to biodegradable fibers that are incorporated into absorbent articles such as diapers in order to enhance the strength of the flushable absorbent articles. Thus, the material of GB '648 is intended for use as a flushable absorbent core. There is no suggestion in GB '648 to use the absorbent material in any capacity other than as an absorbent core.

The reason that the absorbent material in GB '648 requires strengthening is that the absorbent material is primarily composed of biodegradable fibers that lack the strength of conventional fibers under wet conditions. Since GB '648 fails to disclose or suggest a wrap material, GB '648 also fails to disclose or suggest strengthening a wrapper-type component. Consequently, there is no suggestion or motivation to combine the teachings of Putzier and GB '648 and, thus, no suggestion or motivation to strengthen the wrapper material of Putzier, particularly with the amount of binder recited by Appellants.

As explained above, the logical combination of the teachings of Putzier and GB '648 would result in mixing a binder with the fibers of the absorbent core in Putzier and *eliminating* the wrapper entirely, since the binder in GB '648 obviates the need for a wrapper.

**II. Claims 1-14 and 16-33 are non-obvious under 35 U.S.C. 103(a) based on the teachings of Everett et al. in view of GB '648.**

**A. The combination of Everett et al. and GB '648 fails to disclose or suggest a wrapper material comprising a binder mixed throughout a fibrous absorbent material.**

As pointed out by the Examiner, Everett et al. fail to disclose or suggest a wrap sheet that includes a binder material, much less a binder material that is mixed throughout a fibrous absorbent material. The wrap sheet may be an absorbent material, but there is no suggestion in either Everett et al. or GB '648 to mix a binder material with the absorbent material in the wrap sheet of Everett et al.

GB '648 fails to disclose or suggest any sort of wrap material. The Examiner states that the absorbent materials in GB '648 are, in fact, tissue because a tissue is essentially fibers held together with a binder. Nevertheless, GB '648 does not disclose or suggest the use



of these absorbent materials as wrap materials, or as materials sufficiently thin for wrapping about another material, but instead discloses this combination of fibers and binder as an absorbent *core* type material.

The Examiner suggests that it would have been obvious to have employed a binder as taught by GB '648 with the wrapper of Everett et al. The Examiner further suggests that a motivation for combining the binder of GB '648 with the wrapper of Everett et al. is that the binder would enhance the strength of the tissue which is wrapped around the absorbent core of Everett et al. However, it is unlikely that a person skilled in the art would be motivated to modify the composition of a *wrap* material in one reference based on the composition of an absorbent *core* material in another reference, particularly when there is no suggestion that the materials in the respective wrap materials and absorbent core materials are interchangeable.

Furthermore, the reason that the absorbent material in GB '648 requires strengthening is that the absorbent material is primarily composed of biodegradable fibers that lack the strength of conventional fibers under wet conditions. There is no suggestion in Everett et al. to form a wrapper of biodegradable fibers. Consequently, there is no suggestion or motivation to combine the teachings of Everett et al. and GB '648 and, thus, no suggestion or motivation to strengthen the wrapper material of Everett et al.

Because the binder material in GB '648 is specifically intended to strengthen biodegradable fibers, and because the wrapper material in Everett et al. does not include biodegradable fibers, there is no suggestion or motivation to apply the binder material of GB '648 to the wrapper material in Everett et al. Even if these references were combined, there is no reason that a person skilled in the art would consider using a binder material to reinforce the wrapper material of Everett et al. based on the teachings of GB '648. Instead, the logical combination of the teachings of these references would result in mixing a binder with the fibers of the absorbent core in Everett et al. and *eliminating* the wrapper entirely, since the binder in GB '648 obviates the need for a wrapper.

The Examiner suggests that because the wrapper of Everett et al. is disclosed as imparting absorbency to the overall absorbent article, it would not have been obvious to remove the wrapper from the Everett et al. structure because a loss of absorbency would occur. However, since the absorbent core is more absorbent than the wrapper, there would be

no motivation to maintain the wrapper if the binder is capable of holding the absorbent core together, as in GB '648.

**B. Everett et al. and GB '648 fail to disclose or suggest a wrapper material that provides at least 20% of a total absorbent capacity of an absorbent structure, or an absorbent wrap to inner core absorbency ratio of at least 0.2.**

Everett et al. do not disclose the amount of absorbency that is contributed to the absorbent material by the wrapper. As pointed out by the Examiner, Appellants define total absorbent capacity as saturated capacity, as measured by the test method described in the subject application. Despite any lack of basis weights and thicknesses mentioned in the subject application, the test method for measuring saturated capacity is clearly described therein, thereby providing a person skilled in the art with a clear understanding of how to determine total absorbent capacity of the absorbent structure, as well as how to determine what percentage of the absorbent capacity is attributable to each component of the absorbent structure.

Contrary to the Examiner's assertion, the materials that make up the wrapper of Everett et al. are not the same as those employed to make up the claimed wrapper because, as explained above, Everett et al. fail to disclose or suggest a binder material mixed throughout the fibrous absorbent material of the wrapper. Thus, the wrapper in Everett et al. does not have the same properties as the wrapper in Appellants' claimed invention.

Everett et al. provide no motivation to make an absorbent structure wherein an absorbent wrapper contributes at least 20% of an overall absorbent capacity as required by Claim 1, or having an absorbent wrap to inner core absorbency ratio of at least 0.2, as required by Claim 16. To the contrary, Everett et al. teach that it is desirable to minimize the thickness of the overall absorbent structure (p. 12, line 27 – p. 13, line 17). This can best be accomplished by adjusting the superabsorbent concentration in the core layer to provide increased absorbency, not by increasing the thickness of the less absorbent wrapper material.

The secondary reference, GB '648 does not overcome the gaps in the Everett et al. disclosure. GB '648 discloses a single-layer absorbent material and, therefore, fails to disclose a wrapper having the relative levels of absorbency recited in Claims 1 and 16.

**III. Claims 15, 34, and 35-48 are non-obvious under 35 U.S.C. 103(a) based on the teachings of *Everett et al.* in view of GB '648 and further in view of *Rosch et al.***

The differences between Appellants' claimed invention and the combination of *Everett et al.* and GB '648 have been fully explained above and, therefore, will not be repeated in detail.

*Rosch et al.* disclose absorbent swimwear garments. The Examiner suggests that it would have been obvious to have incorporated an absorbent core as taught by *Everett et al.* into the swimwear of *Rosch et al.*, motivated by the excellent liquid absorbent and holding properties of the absorbent core of *Everett et al.* However, as explained above, because the binder material in GB '648 is specifically intended to strengthen biodegradable fibers of an absorbent core, and because the wrapper material in *Everett et al.* does not include biodegradable fibers, there is no suggestion or motivation to apply the binder material of GB '648 to the wrapper material in *Everett et al.* Furthermore, the logical combination of the teachings of *Everett et al.* and GB '648 would result in mixing a binder with the fibers of the absorbent core in *Everett et al.* and *eliminating* the wrapper entirely, since the binder in GB '648 obviates the need for a wrapper.

Thus, even if the absorbent materials of *Everett et al.* and GB '648 were incorporated into the swimwear of *Rosch et al.*, the absorbent core would either lack binder material in the wrapper or would lack a wrapper entirely. Consequently, the combined references do not disclose or suggest Appellants' claimed invention.

**IV. APPELLANTS MAINTAIN THEIR POSITION IN ARGUMENTS I-III IN THE APPEAL BRIEF.**

The Examiner has indicated that she maintains the grounds of rejection set forth in the final Office Action mailed 18 January 2005, and has repeated these rejections in the Examiner's Answer. Likewise, Appellants maintain their position in arguments I-III in the Appeal Brief.



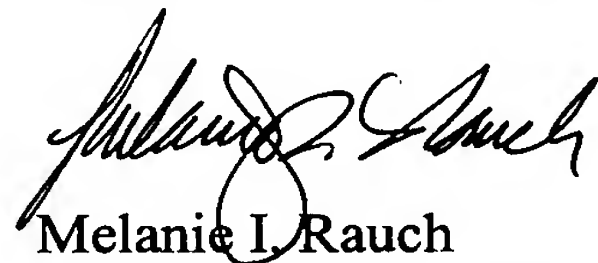
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**CONCLUSION**

For the reasons presented above, Appellants respectfully submit that the Examiner's Answer does not overcome Appellants' Appeal Brief. Therefore, Appellants respectfully request that the Board reverse the rejections proposed by the Patent Office.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Melanie I. Rauch", is written over the printed name.

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